An unsuitable and degraded diet? Part two: realities of the mid-Victorian diet

Paul Clayton[1] • Judith Rowbotham[2]

[1] School of Life Sciences, Oxford Brookes University

[2] Nottingham Trent University – School of Arts and Humanities, Clifton Lane, Nottingham W8 7NP, UK

Correspondence to: Judith Rowbotham. E-mail: judith.rowbotham@ntu.ac.uk

DECLARATIONS

Competing interests

PC provides consultancy services to a number of companies in the food and drink, supplement and pharmaceutical sectors, including Coca Cola Ltd, Univite Ltd, Biothera Pharma. JR is a historian who provides no consultancy services to anyone on any commercial basis, but provides academic comment to media and academic outlets, including Woman's Hour, European Social Science History Conference, etc.

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Introduction to the series

Principal findings

In this article we use a multiplicity of sources to document food availability in the period 1850–1900 and cross-reference this against earnings data to create a qualitative overview of the mid-Victorian diet, backed up by quantitative data where available and credible. Our findings reveal that in contrast to received wisdom, working-class mid-Victorians ate a superior version of the Mediterranean diet, with a much higher consumption of vegetables and fruits than has hitherto been realized. The positive impact of this diet on mid-Victorian health is described in the last article in this series, as are the implications for public health policy and research today.

Methods, strengths and weaknesses

In reaching the conclusions presented here, a careful set of 'typical' weekly menus for the income ranges (calculated on average family incomes for households both in London and provincial urban centres) was drawn up. Although this is one of the strengths of this paper, it has proved impossible to tabulate all these in a useful format and so these cannot be reproduced here in full. The main elements only are presented, but will be amplified in a subsequent book. In commenting on adulteration, a close study of prosecutions for adulteration done by JR reveals that the extent of headline-grabbing harmful contamination was small, suggesting that before the chemical industry developed, the normal reality was contamination with cheaper foodstuffs/vegetable matter.

Introduction to part two

Our objective is to develop our theme that serious cultural biases have been built into popular concepts and public health policy regarding dietary issues from the nineteenth century on. These have distorted comprehensions of the usefulness of recent state and state-related interventions in improving the health of the nation and the working-class; in particular via nutritional exhortation based on long-entrenched assumptions that the working-classes have always been unaware or unmindful of what constitutes a 'good' diet unless 'taught'.[1] In the first paper in this series, we reviewed the broad calorific intakes of the mid-Victorian working-class population. Here we highlight the main foods items available to them and suggest how they might have been cooked in order to explore the validity of claims that condemn the mid-Victorian working-class diet as seriously lacking in nutritional benefits. We concentrate on what was actually eaten, based on a qualitative but detailed typical menu analysis, utilizing the same range of records as for the previous paper. In the final paper, working from basic nutritional biochemical principles, we correlate mid-Victorian working-class nutritional status with the public health trends of the time. This analysis reveals that ideas about prevalent mid-Victorian malnutrition need to be revisited, meaning that (*contra* Fogel)[2] they were very unlikely to suffer from the degenerative diseases that have dominated public health concerns since the Edwardian period.

The working classes comprised approximately three-quarters of the Victorian population, covering a wide range of incomes and living standards though daily life was arduous and uncomfortable for most. Yet contemporary reports reveal that many women managed their families on very limited incomes without exposing them to starvation or malnutrition. While today's consumers would regard the mid-Victorian 'poverty diet' as unappetising, detailed analysis of typical menus demonstrates its high nutritional value. Admittedly, for the vast majority of the mid-Victorian working-classes the weekly food bill was a burden. Those at

Ethical approval
Not appropriate or relevant: all modern data cited is already in the public domain, and all historical data is either anonymized or untraceable

Guarantor
PC

Contributorship
This series of three papers was jointly conceived and researched. JR took primary responsibility for searching out both the primary historical sources and the relevant secondary references; PC took primary responsibility for searching out the scientific and medical data. The general tenor and conclusions of the papers (including the exercise of drawing up dietary patterns and levels of physical activity which are summarized in the first and second papers) are a joint effort, representing 50% input from each contributor. While comment on penultimate drafts was sought from specialists in both the historical and scientific/medical fields, no other

the bottom of the income scale might aspire to spending half the weekly wage on food – something that permitted only a very basic diet. This does not reflect the whole experience of the urban working-classes, some of whom enjoyed a more secure income and varied diet. Roberts has concluded that she was 'doubtful if the working-classes were quite as poor as one may logically conclude' from the statistics; her closer look at two Lancashire towns revealed a 'healthier-than-average population existing on earnings near or below the poverty line'.[3]

Our close examination leads to the conclusion that even at the lower end of the economic scale, people ate nourishing, if dull, food. In 1877 Mrs Ball, very poor, with six children and drunken husband, described her habit of getting 'fourpenny-worth of lean beef and onion and carrots' (lean beef then at c 2d/lb) to boil, served with suet dumplings.[4] Records of mid-Victorian working-class housewives in the North of England show that Lancashire women used vegetables heavily in their cookery; Ross, stressing the poverty of the East End diet, writes of the well-established use of backyards and allotments to produce eggs, vegetables, fruit and rabbit meat, but overlooks the way in which this home-grown produce would extend and improve family diets.[6,7] There is a parallel with the post-war Soviet system up to 1989, where official records of food availability in shops have been a poor indicator of the real Russian diet, which included a significant *dacha* component. Our work for the mid-Victorian period suggests the importance of further imaginative micro-studies on adult life expectancy and health in towns and cities, to flesh out further our challenge to traditional assumptions about the nutritional poverty of the diet of the poor.

We recognize there are some real nuances to be taken account of in terms of family consumption: infants up to age five were often the worst-fed individuals in a family (undoubtedly helping to account for the high infant mortality rate); mothers and female children would frequently have smaller helpings and less meat than the males, young and old, who were increasingly expected to be the major breadwinners.[8] Interestingly, in the late Victorian period this seems to have had negative effects on male life expectancy at a time when overall female mortality rates were improving due to a number of factors including improved management of the risks of childbirth. Even so, we argue (with McKeown)[9] that the upturn in life expectancy discernable by 1861, and well-established by 1871, was due to an improvement in nutrition which affected all classes, including the working-classes, thanks to a better availability, in quantity, of a range of foods at affordable prices.

Victorian diet: food range

What follows is a survey of the types of foodstuffs available for purchase by the working-classes via costermongers, street markets and other small outlets. Estimating the precise amounts of food available in Britain's towns and cities in the nineteenth century is something that has exercised scholarship for some time. Looking at developments up to 1850, the beginning of the mid-Victorian age, one weakness of 'physical supply estimates is that they provide information on only a few well documented commodities over time', suggesting that it was probable that 'fruit, vegetables and other omitted commodities were of growing importance'.[10] Britain produced a large amount of food for itself in the shape of vegetables, fruit and dairy goods. The railway network (developing rapidly from the 1840s) ensured that there was a greater urban availability of cheap food than ever before, brought in from wider hinterlands to towns throughout the kingdom: in contrast to Europe and the USA,[11] UK rail journeys were, relatively, short enough to permit lower transport costs and prices to the consumer, as well as fresher food.[12] In addition, there were substantial amounts of imported food available at affordable prices, even before developments like refrigerated ships from the mid-1870s ensured an even wider availability of produce from meat and wheat to fruits and other exotica, at prices which were surprisingly affordable for many.[13] There were, of course, times when, locally (as in Lancashire with the so-called cotton famine associated with the American Civil War), both income and imported food supplies ran short.[14] Despite this, however, the consumer society, with its markets and shops that had developed during the late eighteenth century, ensured that in towns and cities from London and Liverpool to Bristol and Glasgow, there was generally a very adequate supply of foodstuffs by the 1850s. Working-class diets were predominantly seasonal. Bread was always in season, but potatoes were much more expensive during the summer, when rice, lentils or oatmeal would often be used as a substitute.[15] Equally, other strategies were employed to substitute available food according to the seasonal availability and consequent price. Processed foods in the modern sense of the term hardly existed.

contributor was directly or substantially involved in the writing of these papers or the research thereof. Those cited have been cited where the contributors judged that their work was relevant and supportive, or where we wished to identify work that we wished to challenge

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An examination of the availability of food does not, of course, provide an insight into what, and how, people ate. An impression of misery is given by many contemporaries, but their agendas depended on such depictions. While undoubtedly a reflection of the experience of a minority it does not, on closer examination of sources such as the less morally-biased records of the London Police Court Mission (LPCM), reflect the usual experience of the majority of those at the bottom end of the income scale in a way that restores agency to them, rather than leaving them simply as victims. Talking of the London families living in one room (according to the LPCM, amounting to about 2000 families in 1881) their missionaries reported the 'wonderful' economies of such 'one-roomed people' in food. One woman commented that she spent a shilling as follows: 'Coal 1d, wood ¼ d, bread 1½ d, dripping 1d; tea quarter ounce 3/4 d; soap 1/2 d; sugar ½ d… 6d put by for rent [and] I spends 3d in block ornaments (pieces of meat and bone), and the other 3d for extras'. The importance of bread in the diet is plain, as well as that of the dripping and tea – but her 'extras' will have included vegetables like onions, dairy goods and possibly some of the goods sold by her neighbours, including apples and shellfish such as whelks.[16] What follows is based on a series of sources and so cannot be intensively referenced. Key sources include Mayhew, *London Labour and the London Poor* (especially volume 1),[15] fiction by authors like Dickens (including *Our Mutual Friend* and *Little Dorrit*), plus cookery and medical texts, along with workhouse, prison and other institutional dietaries (including army ones).

Vegetables, root and green

Onions were amongst the cheapest vegetables, widely available all year around at a cost so negligible that few housewives budgeted what cost them around a halfpenny (even cheaper if bruised, but still nutritious) for a bunch containing at least a dozen. They might become slightly more expensive in the late spring, when leeks could be substituted.[15] Beetroot was consumed year-round, while the Jerusalem artichoke was eaten from September through to March, often home-grown as it was one of the easiest vegetables to grow in urban allotments.[17] Carrots and turnips were inexpensive staples, especially during the winter months. Watercress was a key cheap staple in the working-class diet, available at a halfpenny for four bunches in the period April to January/February.[15] Cabbage was also cheap and readily available, along with broccoli, with lettuces and radishes in summer. Fresh peas were affordable from June to July, with beans from July to September.[15]

Fruit

Apples were the cheapest and most commonly available urban fruits, August to May, cherries were cheap May to July, gooseberries followed, then plums and greengages to late September.[15,18] Candied peel and dried fruits were always cheaply available, and used to flavour desserts like bread puddings and in cakes and mincemeat. They constituted a favourite afternoon (children's) snack according to Victorian cookery books[17] and many other sources from Dickens to Mayhew.

Legumes and nuts

Dried legumes were available all year round, and widely used (e.g. pease pudding). The chestnut was the most commonly consumed nut, being a favourite street snack in the chestnut season, running from September through to January. Filberts or hazelnuts were available from October through to May; walnuts were another regularly bought seasonal nut. Imported almonds and brazil nuts were more expensive, but widely consumed around Christmas as a 'treat'. Coconuts were also imported, often given as presents or won at fairs; commonly bought grated for use in cakes and desserts.[15]

Fish and seafood

Herrings were some of the most important fish in the mid-Victorian urban diet; fresh in the autumn, winter and spring, dried/smoked (red herring) or pickled/soused all year round. Red herrings were a year-round staple of the Victorian working-class diet because they were easily cooked.[19] Other favourites were cheap and easily obtainable varieties with better keeping qualities than the more vulnerable white fish, including sprats, eels and shellfish (oysters, mussels, cockles, whelks). Of the white fish consumed, cod, haddock and John Dory were preferred. Typically, and unlike today, the whole fish was consumed, including heads and roes.[15] Fish was available from Monday evening to Friday evening, with broken and day old fish or eels and shoreline shellfish available on Saturdays, as fishermen did not go out over the weekends.[20] Fish and chips was not yet 'invented', but fried 'little fish' (e.g. whitebait) were a favourite street food.[20,21]

Meats

Consumption of meat was considered a mark of a good diet and its complete absence was rare: consuming only limited amounts was a poverty diet.[22] Joints of meat were, for the poor, likely to be an occasional treat. Yet only those with the least secure incomes and most limited housing, and so without either the cooking facilities or the funds, would be unlikely to have a weekly (Sunday) joint. Even they might achieve that three or four times a year, cooked in a local cookhouse or bakery oven for a small fee. Otherwise, meat on the bone (shin or cheek), stewed or fried, was the most economical form of meat, generally eked out with offal meats including brains, heart, sweetbreads, liver, kidneys and 'pluck' (the lungs and intestines of sheep). Pork was the most commonly consumed meat. All meats were from free-range animals.

Eggs and dairy products

Many East End households kept hens in their backyards, and Robert's study of Lancashire suggests similar patterns.[5] Keeping a couple of hens could produce up to a dozen eggs per household per week, either for sale or home consumption. Milk was widely consumed but not usually in large quantities, due to cost and adulteration fears. Butter consumption was low due to high cost for 'good' butter; lard and dripping were more significant. Hard cheeses were favoured by the working-classes as a regular part of their diet. Their long shelf-life provided a stable protein source.

Alcohol

Beer was the most commonly consumed form of alcohol, but generally with an alcohol content significantly lower than today's beers. Careful reading of contemporary sources, including cookery and domestic economy books, suggests that the alcohol content of beer consumed in the home was probably only 1–2%, often less as it was watered down, especially for consumption by women and children.[17,23,24] In pubs, the alcohol content of beer was more regulated and generally higher, ranging from 2–3%. These are still weak beers compared to today's average of around 5%.

Spirits were more intermittently consumed by men and rarely by women: respectability and gin did not go together.[25] Gin, rum and brandy were expensive, at about 6d to 1/- a glass (though this was substantially larger than a modern pub measure). Working-class men and women seldom drank wine, but occasionally consumed port or sherry.[21] A third or more of such households were temperate or teetotal, partly due to the sustained efforts of the anti-alcohol movement.[26,27]

Adulterants

Some adulterants commonly used in Victorian foods were well-known to be toxic even then: lead chromate in mustard, mercury and arsenic compounds as colourants in confectionery and picrotoxin in beer all undoubtedly contributed to ill health. These negative effects are well-documented, though the actual scale is much debated.[28] In contrast, though undoubted frauds, modern nutritional biochemistry reveals that some of the other common 'adulterants' have potentially significant health benefits. The hawthorn used to extend tea, for example, contained vaso- and cardio-protective flavonoids.[29–34] The coriander in beer may have had some anthelmintic activity,[35] and the watering down of beer and spirits was, from a health perspective, a generally good thing!

Tobacco

Pipe smoking was widespread but intermittent amongst working-class males, and a cigar or cheroot might be smoked on special occasions. Snuff had largely fallen out of favour, as had chewing tobacco amongst urban workers. The big expansion in mass tobacco consumption by the working-classes did not take place until after 1883, when industrial cigarette production was introduced.[36]

Surveying Victorian nutrition

A revisiting of the mid-Victorian diet for the poor, including those in workhouses and prisons, illuminates the likely levels of nutrition of the working-classes of the time. We do not claim that those in the extremes of poverty would be likely to enjoy all the nutritional benefits identified below: but such extreme cases were not common in the latter half of the nineteenth century.[25] Thus it can reasonably be claimed that in qualitative terms at least, the dietary review discussed here provides a fair picture of the substantial experience of the mid-Victorian poor. The focus is on the poorer elements of the working-class rather than elite artisan groups such as miners: miners' wages, given privileges like low rent costs, amounted to an equivalent annual wage of £30–35,000.

Using a wide range of primary sources (including court reportage, prison and workhouse dietaries, memoirs, fiction and recipe books), a qualitative set of typical weekly mid-Victorian diets (c1855–1880) has been developed for urban poor working-class families, based on broad income groups. In developing typical diets for working-class families in the various income brackets, it must be remembered that for logistical and practical reasons, a much more organized weekly routine than exists today governed the type of main dish served on each day of the week. The combination of being paid on a Saturday and absence of refrigeration facilities also impacted directly on the weekly menu. On Sundays, the main meal would commonly be a midday meal; at other times, the main meal would usually be an early evening affair. Cooking methods and storage varied according to income levels and are discussed in more detail below, but only those at the top end of the income range considered here would have access to several different-sized saucepans. At least one frying pan and roasting dish could be expected, as well as a kettle. At the bottom end of the scale, a kettle, a saucepan and a frying pan or gridiron would be the maximum extent of cooking equipment likely to be found. Storage capacity was limited, especially at the bottom end of the scale, ensuring frequent purchase of small amounts of food.[1]

The 'best' and relatively most expensive meals were taken on Saturday evening and Sunday, though the poorest would often buy food at the end of Saturday trading, at the cheapest possible prices. Menu choices became cheaper through the week: purchases of food would diminish in quantity as the food budget shrank, and meat would often only be purchased once a week, though vegetables and fruit were usually purchased and consumed on a daily basis. Costers and small shopkeepers had very limited storage; trains were supplying towns and cities with fresh produce daily.[13,37] However this had little real impact on nutritive intakes. The very poor might purchase cheaper older fruits and vegetables on the verge of edibility, but although levels of some micronutrients (i.e. folic acid, thiamine, vitamin C) decline with storage, other phytonutrients such as the phenolics do not change,[38] while levels of carotenoids may even increase.[39] As mid-Victorian produce was entirely organic, it contained higher levels of these phytonutrients than the intensively-grown produce consumed today.[40] Vegetables were usually boiled whole. Boiling may lead to considerable leaching of water-soluble vitamins into the cooking liquor.[41] Unlike today, where it is often discarded, Victorians would consume this stock in gravies and soups, thus improving their micronutrient intake further. This holds true for fruit also.

Unless actually rotten, meat retains a considerable amount of its nutrient content; fish, especially varieties where omega 3 HUFAs are present, lose it more rapidly, rendering such fish inedible. The lack of refrigeration facilities meant that meats eaten hot on any one day were almost inevitably consumed (cold) on the second day. Any more leftovers were, due to incipient spoilage, curried or hashed on the third day. Spices and the higher heat involved in frying the hash would disguise any taint to the meat and lessen the chances of food poisoning.[42,43] In winter lack of refrigeration was less of a problem, particularly as during the day fires would be either banked or out and the ambient temperature in households would be low. In summer, however, the problems of keeping perishable foods were greater. Devices such as meat-safes kept flies away from foodstuffs, but ensuring circulation of air was the only (moderately) effective way of preventing food from spoiling.

Typical food routines

These figures represent household incomes, including the monies earned by wives and children.

£3.15s to £4 per week

An average family of two parents and three to four children (not counting babies, which would typically be fed on pap (bread and milk/bread and water).

Weekly rent would be around 10/-, with another 10/- for taxes and utilities outgoings, leaving another £1 per week for transport, clothing, and other costs including coals. This permitted around £1.16s to £2 per week to feed five or six people, two adults and the rest under 14. The kitchen facilities for a family in this income range usually consisted of a range or built-in oven to the side of the open fire, and some top of the range/oven cooking capability. Thus more complicated and varied cooking could be performed, especially as the fire would usually be kept up for most of the day, if banked to a low level during working hours.

At this level of income it would be usual to have a roast dinner on Sunday, eaten cold on Monday with bought pickles, and cooked up in a form such as a curry on Tuesday. Typically a dish such as a

steamed meat suet pudding would be served midweek, eaten cold the next day. Fish was commonly consumed on Friday and a quick meal such as pork chops or fried beefsteak would be served on Saturday. At all these meals, vegetables (in season) would be an important bulking feature: not just potatoes but onions (because of their cheapness), carrots, Jerusalem artichokes and green vegetables from cabbage to green beans. Desserts were also regularly served, often fruit or dairy-based – apple pies, rice or tapioca puddings, stewed or fresh fruit like gooseberries or cherries, in season. Tea with milk and often sugar was a common drink, with (black) coffee being served more rarely and generally at breakfast. Table (watered-down) beer was often served, especially to men.

Breakfast generally involved eggs (boiled or fried) on a Sunday, and possibly midweek, or porridge, made with milk; though by the end of the week that milk might well be half and half with water. Bread was served, usually toasted, possibly with butter and bought preserves like jam. Lunch generally took the form of sandwiches with paste, left-over meat, or watercress and cheese, commonly bought as cheap street food. Soup made from meat and vegetables, along with meat or vegetable pies and ham and watercress sandwiches, were street staples readily bought at this income level.

£1.17s to £2 per week

An average family of two parents, and three to four children (again excluding pap-fed babies).

For such families, a usual weekly rent would be around 3/- to 5/-, with up to £1.10s for non-food outgoings including fuel, leaving around 18/- to £1 for food. The kitchen facilities would be more limited: perhaps an open fire with an oven which could be swung over, but more likely cradles and jacks from which to suspend saucepans, kettles and the occasional joint (on the jack) and a grill on which a gridiron or frying pan could be placed. It is likely that a fire would be kept for most of the evening, banked overnight and revived in the morning. In winter, it might be used at lunchtime to boil a kettle by either the wife or home-based children.

While a meat dinner was the usual Sunday fare, it was more likely to be a boiled than a roasted joint (which best preserves its size), especially pork or mutton shoulder (up to 2lb) cooked with potatoes and carrots and served with an onion sauce. The smaller joint would usually stretch to cold meat on the Monday, while a stew made from the cheapest cuts of meat (not always fresh) or offal plus vegetables, particularly onions, would serve for both Tuesday and Wednesday, amplified by bread as well as potatoes on the second day. Thursday's meal was likely to be vegetable-based, with possibly a bone stock. Cooked fish and roast potatoes were a Friday night staple. On Saturday a quick meal, such as chops with vegetables, was usual. Desserts would be heavily fruit-based (stewed or fresh, according to season and condition), often bulked out with boiled sweetened rice or tapioca because of the difficulty of producing more elaborate baked dishes.

Tea was the staple drink, though black coffee would occasionally be available, usually heavily mixed with chicory (chicory could form as much as 90% of the coffee mixture).[44] Breakfast might involve cooked eggs on a Sunday. Otherwise, bread and/or porridge (made with water and milk at the start of the week; water only by the end) would be the staple breakfast, often accompanied by cheese and watercress. Lunch would take the form of sandwiches made from left-overs; although at the start of the week, when funds permitted, street food like pies, soup or sandwiches could be bought.

18/- to £1 per week

A family of one or two parents, and up to three children, excluding pap-fed babies (it is worth noting that at this income level pap would more often be water based than milk based).

The usual weekly rental would be around 1/6d to 2/-, with minimal extra outgoings for non-food items, leaving a disposable income for food of 2/- to 4/- maximum. Kitchen facilities were extremely limited: often just an open fire lit for the duration of cooking and then let out to save fuel. Light would also be minimal, again encouraging a very basic style of cooking. Such households would depend on pans suspended over, or to the side of, the fire.

Even at this level, meat formed an important part of the diet, though rarely in roasted form. The Sunday dinner was likely to consist of a boiled meat pudding, made with mixed meat scraps, offal, onions and suet pastry, along with vegetables like potatoes, carrots, cabbage or Jerusalem artichokes. The pudding would reappear, cold, on Monday, accompanied by bread and salad (often beetroot and watercress). Tuesday and Wednesday meals would be a stew or soup based on bones and meat or fat scraps, plus vegetables and flour (if lucky, suet) dumplings. Thursday commonly

featured some dish made with rice or lentils boiled with fat and onions, accompanied by bread. Friday frequently featured red herrings at a halfpenny apiece, broiled on the gridiron, or a fish head soup (a half pound of fish heads cost a farthing), both served with bread. Fried or stewed offal such as ox kidneys was a common Saturday relish. Desserts were plain, commonly dishes like stewed apple with breadcrumbs and ground ginger, with currants to sweeten in winter. In summer fresh fruits such as cherries were cheap and plentiful.

Tea was the staple drink. Coffee might be consumed at breakfast even by the poorest, but in the form of chicory/coffee mixture. Breakfast was generally bread, occasionally with butter. For the poorest a sandwich of bread and watercress was the most common. At the start of the week, porridge made with water might be possible. Lunch involved bread, combined with cheese if possible or more watercress. At the start of the week, soup could occasionally be bought as cheap street food.

Extras

For all income groups, street food lunches (sandwiches, pies, fruit) were a regular occurrence. In addition, late suppers of 'savouries' were regular treats, when money permitted, especially at weekends. These including such delicacies as devilled herring roes (fried in cayenne pepper) on toast, or toasted cheese, and were mainly for adult consumption.

Why were such practical nutritional strategies viewed with suspicion by many contemporary commentators? Partly, probably, because the resulting dishes looked 'messy' and smelt unappetising to more fastidious consumers, and so were readily (but incorrectly) labelled unwholesome and unhygienic; and partly because the nutritional value of staples such as watercress, onions, radishes or cherries was not appreciated. It certainly helped to shape public health exhortations about the 'unsuitable' diet of the urban poor. It also explains why, from the 1880s on, endorsement was awarded to canned and processed milk, fruit and meat products as 'ideal' for the consumption of the working-classes because of a presumed promotion in hygiene and nutritional value, as well as convenience. The late-Victorian working-classes enjoyed the benefits of such foods and were reassured by the official insistence on their quality (assurances based essentially on their freedom from adulteration). Can they be blamed? After all, we have only relatively recently addressed the problems of the hidden salts and sugars in convenience foods because they were affecting the health of all classes, not just the working-class.

Conclusion

Given the review of foods and dietary patterns outlined above, combined with the calorific requirements calculated in the previous paper, we can arrive at a reasonably accurate overview of what the mid-Victorian working-classes actually consumed. Individual experiences differed according to personal taste and circumstances (regional and seasonal availabilities etc), and for those at the bottom of the economic scale there will have been additional difficulties due to financial instability. Nevertheless, the picture that emerges of mid-Victorian nutrition is remarkably positive, and one that matches or surpasses modern nutritional recommendations. If health benefits accrue from improved nutrition, as so many recent studies suggest, the mid-Victorians should have enjoyed a generally high standard of physical well-being. That this was indeed the case is strongly suggested by their astonishingly high levels of physical activity, as reviewed in the first paper in this series; and is further documented in the third and final paper in this series, which reviews public health data from the time and correlates specific disease patterns with the known biochemical and physiological effects of the main elements in the diet of the period.

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